

What is claimed is:

1. A display panel using a hologram pattern liquid crystal comprising:

first and second data lines formed in line in the same direction, the second data lines overlapping with upper parts of the first data lines;

5 first and second scanning lines formed in line in a direction perpendicular to the first and second data lines, the second scanning lines overlapping with upper parts of the first 10 scanning lines; and

liquid crystals having hologram patterns formed between the first scanning lines and the first data lines, between the first data lines and the second scanning lines, and between the second scanning lines and the second data lines, respectively.

15  
2. The display panel of claim 1, further comprising:  
a driving unit for driving the first and second data lines and the first and second scanning lines; and  
a control unit for controlling the driving unit in 20 accordance with the image signal externally inputted.

3. The display panel of claim 1, wherein the first and second data lines and the first and second scanning lines are transparent electrodes.

4. The display panel of claim 1, wherein the liquid crystal between the first scanning lines and the first data lines, the liquid crystal between the first data lines and the second scanning lines, and the liquid crystal between the second scanning lines and the second data lines have the hologram patterns different from one another.

5. The display panel of claim 1, wherein the hologram pattern of the liquid crystal is formed in a pixel area in which the data line and the scanning line cross each other.

6. The display panel of claim 1, wherein the liquid crystal formed between the first scanning lines and the first data lines 15 adjusts a transmitted light quantity of a red light, the liquid crystal formed between the first data lines and the second scanning lines adjusts a transmitted light quantity of a green light, and the liquid crystal formed between the second scanning lines and the second data lines adjusts a transmitted light 20 quantity of a blue light.

7. The display panel of claim 1, wherein the liquid crystal is composed of liquid crystal molecules having the hologram

pattern and a monomer, and wherein the liquid crystal molecules and the monomer are periodically arranged to have a band shape.

8. The display panel of claim 7, wherein the hologram pattern is formed as a band-shaped interference pattern due to a phase difference between a laser reference light and the laser light irradiated onto a mixed liquid of the liquid crystal molecules and the monomer.

10 9. A display system using a hologram pattern liquid crystal comprising:

a light source for generating light;  
a display panel for displaying an image by selectively adjusting color and quantity of light in accordance with an input image signal, the display panel comprising first and second data lines formed in line in the same direction, the second data lines overlapping with upper parts of the first data lines, first and second scanning lines formed in line in a direction perpendicular to the first and second data lines, the second scanning lines overlapping with upper parts of the first scanning lines, liquid crystals having hologram patterns formed between the first scanning lines and the first data lines, between the first data lines and the second scanning lines, and between the second scanning lines and the second data lines, respectively; and

optical fibers for transmitting the light from the light source to the display panel.

10. The display system of claim 9, further comprising:

5 a driving unit for driving the first and second data lines and the first and second scanning lines so that corresponding voltages are inputted to respective pixels of the display panel;

a control unit for controlling the driving unit in accordance with the image signal externally inputted; and

10 an optical system formed between the light source and the optical fibers.

11. The display system of claim 9, wherein the light source

is one of a high-voltage mercury lamp, a metal halide lamp, and a  
15 white LED.

12. The display system of claim 9, wherein the first and second data lines and the first and second scanning lines are transparent electrodes.

20

13. The display system of claim 9, wherein the liquid crystal between the first scanning lines and the first data lines, the liquid crystal between the first data lines and the second scanning lines, and the liquid crystal between the second

scanning lines and the second data lines have the hologram patterns different from one another.

14. The display system of claim 9, wherein the hologram pattern of the liquid crystal is formed in a pixel area in which the data line and the scanning line cross each other.

15. The display system of claim 9, wherein the liquid crystal formed between the first scanning lines and the first data lines adjusts a transmitted light quantity of a red light, the liquid crystal formed between the first data lines and the second scanning lines adjusts a transmitted light quantity of a green light, and the liquid crystal formed between the second scanning lines and the second data lines adjusts a transmitted light quantity of a blue light.

16. The display system of claim 9, wherein the liquid crystal is composed of liquid crystal molecules having the hologram pattern and a monomer, and wherein the liquid crystal molecules and the monomer are periodically arranged to have a band shape.

17. The display system of claim 16, wherein the hologram pattern is formed as a band-shaped interference pattern due to a

phase difference between a laser reference light and the laser light irradiated onto a mixed liquid of the liquid crystal molecules and the monomer.

5        18. The display system of claim 9, wherein the optical fibers are arranged corresponding to the respective pixels of the display panel.

19. The display system of claim 9, wherein the number of  
10 optical fibers is the same as the number of pixels of the display panel.